

IN THE SPECIFICATION

Please amend the paragraph at Page 1, line 13 - Page 2, line 3, as follows:

– In recent recent years, PCR has been one of the essential techniques for research and testing in the fields of biochemistry, molecular biology and clinicopathology. A feature of PCR is that the reaction is carried out using a thermostable DNA polymerase. The DNA polymerases most frequently utilized currently are, mainly, thermostable DNA polymerases called “Pol I-like”, such as a thermostable DNA polymerase derived from Thermus aquaticus (Taq DNA polymerase) and a thermostable DNA polymerase derived from Thermus thermophilus (Tth DNA polymerase). The advantageous characteristics of Pol I-like DNA polymerases are high amplification efficiency and easiness to set conditions. However, these enzymes have a defect of low fidelity in nucleic acid incorporation during amplification and are considered to be unsuitable for use in the case of cloning the amplified DNA. --

Please move the following paragraphs from Page 59, line 7 - Page 60, line 12, to Page 5, after line 5:

– BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the EXO I region (underlined) and amino acid sequence adjacent to the EXO I region in various DNA polymerases. These sequences are identified as follows: KOD (SEQ ID NO: 29); Pfu (SEQ ID NO: 30); Vent (SEQ ID NO: 31); Sso (SEQ ID NO: 32); T7 (SEQ ID NO: 33); and T4 (SEQ ID NO: 34).

FIG. 2 shows relative 3'-5' exonuclease activities in various KOD DNA polymerase variants (calculated relative to the activity of WT as 100).

FIG. 3 shows the result of PCR amplification of α -globin gene (3.6kb) using human genome DNA as a template and various KOD DNA polymerase variants.

A: PCR using 100 ng of human cell line K562-derived DNA

B: PCR using 10 ng of human cell line K562-derived DNA

1: naturally occurring DNA polymerase (WT),

2: variant HD,

3: variant HE,

- 4: variant HY,
- 5: variant HA,
- 6: variant HK,
- 7: variant HR,
- 8: variant IK,
- 9: variant IQ.

FIG. 4 shows the result of the PCR amplification of Myosin heavy chain gene (6.2kb) using human genome DNA as a template and various modified KOD DNA polymerases.

PCR using 50 ng of human cell line K562-extracted DNA

- 1: variant HD,
- 2: variant HE,
- 3: variant HY,
- 4: variant HA.

Fig. 5 shows mutation frequency (%) in PCR amplification using various KOD DNA polymerase variants. –

Please insert the following paragraph on Page 40, after line 17:

-- Reference Example 1 discloses a process for preparing a known DNA polymerase gene which is used in Example 1 below. --